

IN THE CLAIMS:

Please amend claims 1 and 3-19 as follows.

1. (Currently Amended) An optical data transmission system, ~~the optical data transmission system~~ comprising:

a hub;[[,]]

a kerb location;[[,]]

a converter;[[,]]

an optical router;[[,]] and

a plurality of optical network units,

wherein the optical network units ~~being capable of transmitting~~ are configured to transmit respective data signals to the kerb location,

wherein the optical router ~~being capable of routing~~ is configured to route wavelength channels having predefined wavelength ranges assigned to respective optical network units for transmission to the hub, and

wherein the converter ~~being capable of converting~~ is configured to convert the data signals into the wavelength channels, the conversion being performed without any intermediate conversion to or from an electrical signal, and

wherein the data signals ~~are~~ comprise optical signals.

2. (Cancelled)

3. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ the data signals are used as pump signals to generate the wavelength channels.

4. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ the data signals are within a wavelength range which does not include the wavelength or wavelengths of the wavelength channels.

5. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ the wavelength channels are generated by a plurality of optically pumped sources.

6. (Currently Amended) An optical data transmission system according to claim 5, wherein ~~in which~~ the optically pumped sources are configured to generate light having different wavelengths in order to define the wavelength channels having predefined distinct wavelength ranges.

7. (Currently Amended) An optical data transmission system according to claim 5, wherein ~~in which~~ the optically pumped sources each comprise a laser cavity, mirrors defining the cavity, and wavelength selective elements inside the cavity.

8. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ respective ones of the optical network units are sufficiently similar that they are interchangeable.

9. (Currently Amended) An optical data transmission system according to claim 5, wherein ~~in which~~ the optically pumped sources are injection locked lasers.

10. (Currently Amended) An optical data transmission system according to claim 9, wherein ~~in which~~ the injection wavelength is selected by a wavelength division multiplexer and/or an arrayed waveguide grating.

11. (Currently Amended) An optical data transmission system according to claim 5, wherein ~~in which~~ the optically pumped sources are external cavity lasers.

12. (Currently Amended) An optical data transmission system according to claim 10, wherein ~~in which~~ the optical router is within the laser cavity of at least one optically pumped source.

13. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ a pumping light is at a wavelength different to from the wavelength of light which is used to carry data traffic in upstream and downstream directions.

14. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ the optical router is a wavelength division multiplexer.

15. (Currently Amended) An optical data transmission system according to claim 1, wherein ~~in which~~ the optical router is an arrayed waveguide grating arrayed waveguide grating.

16. (Currently Amended) A method of transmitting data ~~in an optical data transmission system~~, the method comprising:

transmitting, with an optical network unit, respective data signals to a kerb location in an optical data transmission system; and

routing wavelength channels having predefined wavelength ranges assigned to respective optical network units for transmission to a hub with an optical router; and

converting the data signals into the wavelength channels with a converter, wherein the converting is performed without any intermediate conversion to or from an electrical signal, and wherein the data signals are optical signals.

17. (Currently Amended) An optical router for an optical data transmission system, the optical data transmission system comprising a hub, a kerb location, and a plurality of optical network units, the optical network units being ~~capable of transmitting~~

configured to transmit respective data signals to the kerb location, the optical router being ~~capable of routing~~ configured to route wavelength channels having predefined wavelength ranges assigned to respective optical network units for transmission to the hub, and the optical router comprising a converter to convert the data signals into the wavelength channels, wherein the conversion is performed without any intermediate conversion to or from an electrical signal, and wherein the data signals are optical signals.

18. (Currently Amended) A converter for an optical data transmission system, the optical data transmission system comprising a hub, a kerb location, an optical router, and a plurality of optical network units, the optical network units being ~~capable of transmitting~~ configured to transmit respective data signals to the kerb location, the converter being ~~capable of converting~~ configured to convert the data signals into wavelength channels having predefined wavelength ranges assigned to respective optical network units, the conversion being performed without any intermediate conversion to or from an electrical signal, and the optical router being ~~capable of routing~~ configured to route the wavelength channels for transmission to the hub, wherein the data signals are optical signals.

19. (Currently Amended) An optical data transmission system, comprising:
transmitting means for transmitting, with an optical network unit, respective optical signals to a kerb location;

routing means for routing wavelength channels having predefined wavelength ranges assigned to respective optical network units for transmission to a hub with an optical router; and

converting means for converting the optical signals into the wavelength channels with a converter, wherein the converting is performed without any intermediate conversion to or from an electrical signal.